

Taxonomy of ciliates of the southern part of the Russian Far East (Small and Lynn, 1985, 2000; Lynn, 2008)

№	Species	Sakhalin Island		Primorsky Krai		Amur region			Khabarovsk Krai			
		Watercourses	Water bodies	Watercourse	Treatment facilities	Water body	Treatment facilities	Soils	Soils	Treatment facilities	Watercourses	Water body
Phylum CILIOPHORA Doflein, 1901												
Subphylum POSTCILIODESMATOPHORA Gerasimova & Seravin, 1976												
Class KARYORELICTEA Corliss, 1974												
Order PROTOSTOMATIDA Small & Lynn, 1985												
Family Trachelocercidae Kent, 1881												
1	<i>Trachelocerca tenuicollis</i> Quennekersted, 1867			+								
2	<i>Trachelolophos filum</i> Dragesco et Dragesco-Kerneis, 1986			+	+							
Order LOXODIDA Jankowski, 1980												
Family Loxodidae Butschli, 1889												
3	<i>Loxodes magnus</i> Stokes, 1887	+	+		+				+			
4	<i>Loxodes rostrum</i> (Müller, 1773) Ehrenberg, 1830		+	+	+	+			+		+	+
5	<i>Loxodes striatus</i> (Engelmann, 1862) Penard, 1917	+	+									
Class HETEROTRICHEA Stein, 1859												
Order HETEROTRICHIDA Stein, 1859												
Family Blepharismidae Jankowski in Small & Lynn, 1985												

6	<i>Blepharisma coeruleum</i> Gajewskaja 1927		+									
7	<i>Blepharisma hyalinum</i> Perty, 1852			+								
8	<i>Blepharisma lateritium</i> (Ehrenberg, 1831) Stein, 1859	+							+	+		
9	<i>Blepharisma steini</i> Kahl, 1932		+						+		+	+
10	<i>Blepharisma sp.1</i>	+										
11	<i>Blepharisma sp.2</i>								+			
12	<i>Pseudoblepharisma tenue</i> (Kahl, 1926) Kahl, 1927		+									
Family Climacostomidae Repak, 1972												
13	<i>Climacostomum virens</i> (Ehrenberg, 1834) Stein, 1859	+										
Family Condyllostomatidae Kahl in Doflein & Reichenow, 1929												
14	<i>Linostomella vorticella</i> (Ehrenberg, 1833) Aescht in Foissner, Berger & Schaumburg, 1999	+									+	
15	<i>Condyllostoma sp.</i>			+								
Family Spirostomatidae Stein, 1867												
16	<i>Spirostomum ambiguum</i> (Muller, 1786) Ehrenberg, 1834	+	+								+	+
17	<i>Spirostomum minus</i> Roux, 1901		+	+					+	+		
18	<i>Spirostomum teres</i> Claparede et Lachmann, 1859	+	+	+		+	+		+	+	+	+
19	<i>Spirostomum sp.</i>								+			
Family Stentoridae Carus, 1863												
20	<i>Stentor coeruleus</i> (Pallas, 1766) Ehrenberg, 1830	+	+	+						+		
21	<i>Stentor multiformis</i> (Muller, 1786) Ehrenberg, 1838	+	+									
22	<i>Stentor polymorphus</i> (Muller, 1773) Ehrenberg, 1830	+	+								+	+
23	<i>Stentor roeselii</i> Ehrenberg, 1835	+	+							+	+	+

	Borrer, 1972											
63	<i>Paruroleptus piscis</i> Kowalewski, 1882	+		+					+		+	+
64	<i>Uroleptus</i> sp.								+			
Order EUPLOTIDA Small & Lynn, 1985												
Family Aspidiscidae Ehrenberg, 1838												
65	<i>Aspidisca cicada</i> (Muller, 1786) Claparede & Lachmann, 1858	+	+	+	+	+	+		+	+	+	+
66	<i>Aspidisca lynceus</i> (Muller, 1773) Ehrenberg, 1830	+	+		+							
67	<i>Aspidisca major</i> (Madsen, 1931) Kahl, 1932	+										
68	<i>Aspidisca polypoda</i> (Dujardin, 1841) Kahl, 1932		+									
69	<i>Aspidisca turrata</i> (Ehrenberg, 1831) Claparede & Lachmann, 1858	+	+		+					+		
Family Euplotidae Ehrenberg, 1838												
70	<i>Euplotes affinis</i> (Dujardin, 1842) Kahl, 1932	+	+		+							
71	<i>Euplotes aediculatus</i> Pierson, 1943			+								
72	<i>Euplotes eurystomus</i> (Wrzesniowski, 1870) Kahl, 1932	+	+									
73	<i>Euplotes moebiusi</i> Kahl, 1932		+									
74	<i>Euplotes patella</i> (Muller, 1773) Ehrenberg, 1838	+	+	+	+					+	+	+
75	<i>Euplotes</i> sp. 1	+										
76	<i>Euplotes</i> sp. 2			+								
Order HALTERIIDA Petz & Foissner, 1992												
Family Halteriidae Clap. & L., 1858												
77	<i>Halteria chlorelligera</i> (Kahl, 1932)		+									+
78	<i>Halteria grandinella</i> (Muller, 1773) Dujardin, 1841	+	+	+								
Family Meseridae Corliss, 1961												

79	<i>Meseres cordiformis</i> Schewiakoff, 1892								+			
Order STROMBIDIIDA Petz & Foissner, 1992												
Family Strombidiidae Faure-Fremiet, 1970												
80	<i>Limnostrombidium viride</i> (Stein, 1867) Krainer, 1995			+		+		+	+		+	+
81	<i>Pelagostrombidium mirabile</i> (Penard, 1916) Krainer, 1991					+			+			
82	<i>Strombidium mitabile</i> Faure – Fremiet, 1924			+								
83	<i>Strombidium nabranicum</i> Alekperov et al., 2006					+						
84	<i>Strombidium sp. 1</i>			+								
85	<i>Strombidium sp. 2</i>								+			
Order STROBILIDIIDA Jankowski, 1980												
Family Strobilidiidae Kahl in Doflein et Reichelov, 1929												
86	<i>Rimostrombidium caudatum</i> (Kahl, 1932) Agatha & Riedel-Lorje, 1998	+									+	+
87	<i>Rimostrombilidium velox</i> (Faure – Fremiet, 1924) Jankowski, 1978			+								
88	<i>Strobilidium minus</i> Roux, 1901			+								
89	<i>Strobilidium marinum</i> Faure - Fremiet, 1910					+		+				
Order TINTINNIDA Kofoid. et Campbell, 1929												
Family Codonellidae Kent, 1881												
90	<i>Codonella cratera</i> (Leidy, 1877) Imhof, 1885								+			
91	<i>Codonella sp.</i>			+								
Family Tintinnidiidae Kofoid et Campbell, 1929												
92	<i>Tintinnidium semicillatum</i> Sterki, 1879			+								
93	<i>Tintinida sp</i>								+			
Class ARMOPHOREA Lynn, 2004												

Order ARMOPHORIDA Jankowski, 1964

Family Caenomorphidae Poche, 1913

94	<i>Caenomorpha medusula</i> Perty, 1852		+							+	+	+
95	<i>Caenomorpha sapropelica</i> Kahl 1927			+								
96	<i>Caenomorpha</i> sp.	+										

Family Metopidae Kahl, 1927

97	<i>Brachonella spiralis</i> (Smith, 1897) Jankowski, 1964				+							
98	<i>Metopus es</i> (Muller, 1786) Kahl, 1932	+	+	+	+					+	+	+
99	<i>Metopus striatus</i> (McMurich, 1884) Jankowski, 1964				+							
100	<i>Metopus</i> sp.1									+		
101	<i>Metopus</i> sp.2										+	

Class LITOSTOMATEA Small, Lynn, 1981

Order HAPTORIDA Corliss, 1974

Family Enchelyidae Ehrenberg, 1838

102	<i>Enchelys farcimen</i> O.F Müller, 1773 Ehrenberg, 1838								+			
103	<i>Enchelys gasterosteus</i> Kahl, 1926	+							+			
104	<i>Enchelys pupa</i> O.F. Muller- Ehrenberg-Schewiakoff, 1893			+	+				+			

Family Trachelophyllidae Kent, 1882

105	<i>Trachelophyllum apiculatum</i> (Perty, 1852)		+									
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Family Homalozoonidae Jankowski, 1980

106	<i>Homalozoon vermiculare</i> (Stokes, 1887) Stokes, 1890	+										
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Family Lacrymariidae de Fromentel, 1876

107	<i>Lacrymaria coronata</i> Claparède & Lachmann, 1858			+								
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108	<i>Lacrimatoria olor</i> (O.F. Muller, 1786)											+	+
109	<i>Lacrymaria sp.</i>											+	
110	<i>Lacrymaria vermicularis</i> (O.F. Müller, 1773) Bory, 1824								+			+	
Family Spathidiidae Kahl in Doflein & Reichenow, 1929													
111	<i>Spathidium cithara</i> Penard, 1912 (Dujardin, 1841)				+								
112	<i>Spathidium spathula</i> Muller, 1786	+									+		+
113	<i>Rhinothrix porculus</i> (Penard, 1922) Foissner, Xu & Kreutz, 2005	+	+							+	+		
114	<i>Spathidium procerum</i> Kahl, 1930								+				
115	<i>Spathidium sp.1</i>											+	
116	<i>Spathidium sp.2</i>										+		
117	<i>Cranotheridium sp.</i>										+		
Family Actinobolinidae Kahl, 1930													
118	<i>Actinobolina vorax</i> (Wenrich, 1929) Kahl, 1930	+											
119	<i>Actinobolina radians</i> (Stein, 1867) Strand, 1928	+			+								
Family Didiniidae Poche, 1913													
120	<i>Monodinium balbianii</i> (Fabre-Domergue, 1888)	+	+								+		+
121	<i>Didinium nasutum</i> (Muller, 1773) Stein, 1859	+											
122	<i>Didinium chlorelligerum</i> Kahl, 1935												+
123	<i>Cyclotrichium viride</i> Gajewskaja, 1933	+											
Family Tracheliidae Ehrenberg, 1838													
124	<i>Trachelius ovum</i> Ehrenberg, 1838										+		
125	<i>Dileptus margaritifer</i> (Ehrenberg, 1833) Dujardin, 1841	+			+			+	+	+	+		
126	<i>Dileptus gigas</i> (Claparede & Lachmann, 1859)										+		

127	<i>Dileptus sp.</i>								+			
Family Acropisthiidae Foissner&Foissner, 1988												
128	<i>Chaenea teres</i> Kent, 1881								+			+
Order CYCLOTRICHIIDA Jankowski, 1980												
Family Mesodiniidae Jankowski, 1980												
129	<i>Askenasia volvox</i> (Claparede & Lachmann, 1858) Blochmann, 1895	+	+	+								
Order PLEUROSTOMATIDA Schewiakoff, 1896												
Family Amphileptidae Butschli, 1889												
130	<i>Amphileptus flexilis</i> Stokes, 1885								+			
131	<i>Amphileptus pleurosigma</i> (Stokes, 1884) Foissner, 1984	+		+						+		+
132	<i>Amphileptus procerus</i> (Penard, 1922) Song & Wilbert, 1989	+	+	+							+	
133	<i>Amphileptus sp.1</i>				+							
134	<i>Amphileptus sp.2</i>									+		
Family Litonotidae Kent, 1882												
135	<i>Acineria uncinata</i> Tucolesco, 1962	+	+							+		
136	<i>Acineria incurvata</i> (Dujardin, 1841) Augustin, Foissner & Adam, 1987	+	+									
137	<i>Litonotus carinatus</i> Stokes, 1885	+					+			+		
138	<i>Litonotus cygnus</i> (O.F. Muller, 1776) Wrzesniowski, 1870	+	+	+			+		+		+	+
139	<i>Litonotus fusidens</i> (Kahl, 1926) Foissner, Berger, Blatterer & Kohmann, 1995	+	+		+		+				+	
140	<i>Litonotus lamella</i> Schewiakoff, 1896 (Muller, 1773) Foissner, Berger, Blatterer & Kohmann, 1995	+	+		+					+	+	+
141	<i>Litonotus varsaviensis</i> Wrzesniowski, 1870	+				+	+		+		+	
142	<i>Litonotus sp.</i>								+			

175	<i>Tokophrya lemnarum</i> (Stein, 1859) Entz, 1903	+			+		+			+	+	
176	<i>Tokophrya quadripartita</i> Claparede et Lachmann, 1859									+	+	
177	<i>Tokophryella carchesii</i> Claparede et Lachmann, 1858			+	+							
Family Trichophryidae Fraipont, 1878												
178	<i>Trichophrya brevis</i> (Goodrich et Jahn, 1943) Matthes, 1988									+		
Order EVAGINOGENIDA Jankowski, 1978												
Family Discophryidae Collin, 1912												
179	<i>Discophrya elongata</i> Claparede et Lachmann, 1859									+		
Class NASSOPHOREA Small & Lynn, 1981												
Order SYNHYMENIIDA de Puytorac et al., 1974												
Family Scaphididontidae Deroux in Corliss, 1979												
180	<i>Chilodontopsis depressa</i> (Perty, 1852)		+									
Order MICROTHORACIDA Jankowski, 1967												
Family Microthoracidae Wrzesniowski, 1870												
181	<i>Microthorax pusillus</i> Engelmann, 1862	+	+	+						+	+	
182	<i>Microthorax sulcatus</i> Engelmann, 1862									+		+
183	<i>Pseudocristigera hymenofera</i> Hovath, 1956		+							+		
184	<i>Leptopharynx euglenivorus</i> Kahl, 1926			+								
185	<i>Leptopharynx</i> sp.									+		
Family Pseudomicrothoracidae Jankowski, 1967												
186	<i>Pseudomicrothorax agilis</i> Mermod, 1914	+										
Order NASSULIDA Jankowski, 1968												

	Fremiet, 1924											
201	<i>Coleps elongatus</i> (Ehrenberg, 1830) Kahl, 1930				+							
202	<i>Coleps spetai</i> Foissner, 1984	+	+									
Family Holophryidae Perty, 1852												
203	<i>Holophrya hexatricha</i> Savi, 1913					+		+	+			
204	<i>Holophrya simplex</i> Schewiakoff, 1893			+	+	+		+	+			+
205	<i>Holophrya nigricans</i> Lauterborn, 1894	+	+									
Family Prorodontidae Kent, 1881												
206	<i>Prorodon brachyodon</i> Kahl, 1927	+	+									
207	<i>Prorodon niveus</i> Ehrenberg, 1833			+								
208	<i>Prorodon ovum</i> (Ehrenberg, 1833) Kahl, 1930	+	+								+	+
209	<i>Prorodon teres</i> (Ehrenberg, 1834) Foissner, Berger & Kohmann, 1994	+	+		+				+			
210	<i>Prorodon sp.1</i>	+										
211	<i>Prorodon sp.2</i>		+									
212	<i>Prorodon sp.3</i>			+								
213	<i>Prorodon sp.4</i>								+			
Family Urotrichidae Small et Lynn, 1985												
214	<i>Urotricha agilis</i> (Stokes, 1886) Kahl, 1930	+										
215	<i>Urotricha furcata</i> Schewiakoff, 1893	+										
216	<i>Urotricha globosa</i> Schewiakoff, 1892	+	+									
217	<i>Urotricha pelagica</i> Kahl, 1935	+										
218	<i>Urotricha pusilla</i> Penard, 1922			+								
Family Plagiocampidae Kahl, 1926												
219	<i>Plagiocampa mutabilis</i> Schewiakoff, 1893								+			

Class PLAGIOPYLEA Small & Lynn, 1985													
Order PLAGIOPYLIDA Jankowski, 1978													
Family Plagiopylidae Schewiakoff, 1896													
220	<i>Plagiopyla nasuta</i> Stein, 1860		+										
Family Trimyemidae Kahl, 1933													
221	<i>Trimyema compressa</i> Lackey, 1925	+										+	
Class OLIGOHYMENOPHOREA De Puytorac et al., 1974													
Order PENICULIDA Faure-Fremiet in Corliss, 1956													
Family Frontoniidae Kahl, 1926													
222	<i>Frontonia angusta</i> Kahl, 1931	+	+										
223	<i>Frontonia acuminata</i> (Ehrenberg, 1833) Bütschli, 1889	+		+							+	+	
224	<i>Frontonia elliptica</i> Beardsley, 1902	+		+									
225	<i>Frontonia leucas</i> (Ehrenberg, 1833) Ehrenberg, 1838	+	+	+							+	+	
Family Lembadionidae Jankowski in Corliss, 1979													
226	<i>Lembadion bullinum</i> (Muller, 1786) Perty, 1849	+		+									
227	<i>Lembadion lucens</i> (Maskell, 1887) Kahl, 1931	+	+	+							+	+	
228	<i>Lembadion magnum</i> (Stokes, 1887) Kahl, 1931	+		+									
Family Urocentridae Claperede et Lachmann, 1858													
229	<i>Urocentrum turbo</i> (Muller, 1786) Nitzsch, 1827	+	+	+	+						+	+	+
Family Paramecidae Dujardin, 1840													
230	<i>Paramecium aurelia complex</i> Ehrenberg, 1838	+	+	+		+	+	+	+		+	+	
231	<i>Paramecium bursaria</i> (Ehrenberg, 1831) Focker, 1836	+		+		+	+					+	
232	<i>Paramecium caudatum</i> Ehrenberg, 1838	+	+	+		+	+				+	+	+

233	<i>Paramecium pultrinum</i> Claparede et Lachmann, 1858	+	+				+				+	
234	<i>Paramecium sp.1</i>			+								
235	<i>Paramecium sp.2</i>								+			
236	<i>Paramecium sp.3</i>										+	
Order TETRAHYMENIDA Faure-Fremiet in Corliss, 1956												
Family Tetrahymenidae Corliss, 1952												
237	<i>Tetrahymena pyriformis complex</i> Schewiakoff, 1889	+	+						+	+	+	
238	<i>Tetrahymena sp.</i>								+			
Family Turaniellidae Didier, 1971												
239	<i>Colpidium colpoda</i> (Losana, 1829) Ganner & Foissner, 1989	+		+		+		+	+		+	
240	<i>Colpidium kleini</i> Foissner, 1969	+										
241	<i>Dexiostoma campylum</i> (Stokes, 1886) Ganner & Foissner, 1989	+	+						+	+	+	
242	<i>Colpidium sp.</i>								+			
Family Glaucomididae, Corliss, 1971												
243	<i>Glaucoma scintillans</i> Ehrenberg, 1830	+										
244	<i>Glaucoma reniforme</i> Schewiakoff, 1892	+	+									
245	<i>Glaucoma macrostoma</i> Schewiakoff, 1889	+										
246	<i>Espejoia musicola</i> (Penard, 1922)								+			
Order PHILASTERIDA Small, 1967												
Family Loxocephalidae Jankowksi, 1964												
247	<i>Dexiotricha granulosa</i> (Kent, 1881) Foisner et al., 1994			+								
Family Parauronematidae Small & Lynn, 1985												
248	<i>Parauronema acutum</i> (von Buddeenbrock, 1920)					+	+	+				

Family Pseudocohnilembidae Evans & Tompson, 1964												
249	<i>Pseudocohnilembus pusillus</i> (Quennerstedt, 1869) Foissner & Wilbert, 1981	+										
Family Uronematidae Thompson, 1964												
250	<i>Uronema marinum</i> Dujardin, 1841	+	+	+		+	+	+	+	+	+	+
251	<i>Uronema nigricans</i> (O. F. Muller, 1786) Florentin, 1901	+	+		+	+						
252	<i>Uronema sp.1</i>								+			
253	<i>Uronema sp.2</i>								+			
Family Urozonidae Groliere, 1975												
254	<i>Urozona butschlii</i> Schewiakoff, 1889	+	+									
Order PLEURONEMATIDA Faure-Fremiet in Corliss, 1956												
Family Cyclidiidae Ehrenberg, 1838												
255	<i>Cyclidium glaucoma</i> O.F. Mueller, 1773	+	+	+					+			
256	<i>Cyclidium heptatrichum</i> Schewiakoff, 1893			+								
Family Pleuronematidae Kent, 1881												
257	<i>Pleuronema coronatum</i> Kent, 1881					+			+			
258	<i>Pleuronema crassum</i> Dujardin, 1841		+	+								
259	<i>Pleuronema multinucleatum</i> Agamaliev et Suleimanova, 2004			+								
260	<i>Pleuronema sp.</i>								+			
Order SESSILIDA Kahl, 1933												
Family Epistylididae Kahl, 1933												
261	<i>Epistylis anastatica</i> L., 1776			+								
262	<i>Epistylis bimarginata</i> Nenninger, 1948			+	+		+			+		
263	<i>Epistylis chrysemidis</i> Bishop et Jahn, 1941									+		

285	<i>Vorticella nebulifera</i> O.F. Muller, 1786									+		
286	<i>Vorticella nutans</i> O.F. Muller, 1773			+						+		
287	<i>Vorticella octava complex</i> Stokes, 1887	+	+				+			+		
288	<i>Vorticella picta</i> (Ehrenberg, 1831) Ehrenberg, 1838	+				+						
289	<i>Vorticella putrina</i> O.F. Muller, 1776								+			
290	<i>Vorticella striata</i> Dujardin, 1841						+				+	
291	<i>Vorticella submicrostoma</i> Ghosh, 1925	+	+		+					+		
292	<i>Vorticella subprocumbens</i> Ghosh, 1922									+		
293	<i>Vorticella vernalis</i> Stokes, 1887						+					
294	<i>Pelagovorticella natans</i> (Faure- Fremiet, 1924) Jankowski, 1985		+							+		
Family Zoothamniidae Sommer, 1951												
295	<i>Zoothamnium arbuscula</i> Ehrenberg, 1839	+		+								
296	<i>Zoothamnium parasiticum</i> Stein, 1859				+							
297	<i>Zoothamnium procerius</i> Kahl, 1935									+		
Family Vaginicolidae de Fromentel, 1874												
298	<i>Thuricola kelicottiana</i> (Stokes 1887) Kahl, 1935		+									
299	<i>Cothurnia imberbis</i> Ehrenberg, 1831									+		
Family Operculariidae Faure-Fremiet, in Corliss 1979												
300	<i>Opercularia coarctata</i> (Claparede et Lachmann, 1858) Roux, 1901			+	+		+			+		
301	<i>Opercularia curvicaulis</i> (Penard, 1922) Foissner, 1998				+					+		
302	<i>Opercularia minima</i> Kahl, 1935				+							
303	<i>Opercularia phryganeae</i> Kahl, 1935				+					+		
304	<i>Opercularia microdiscus</i> Faure -				+		+					

	Fremiet, 1904											
305	<i>Opercularia nutans</i> Stein, 1854										+	
306	<i>Opercularia</i> sp.								+			
Order MOBILIDA Kahl, 1933												
Family Trichodinidae Claus, 1874												
307	<i>Trichodina pediculus</i> Ehrenberg, 1831	+										
Total number of species		137	106	80	48	39	40	25	91	61	64	43